

REMARKS

Claims 21-29, 33-35, 39 and 40 are pending in the instant application, and are subject to various rejections asserted in the Office Action mailed on November 30, 2006. In view of the foregoing remarks, Applicants believe that the rejections should be withdrawn and that all pending claims are in condition for allowance.

REJECTION UNDER 35 U.S.C. § 112, FIRST PARAGRAPH, ENABLEMENT

Claim 23 stands rejected under 35 U.S.C. § 112, first paragraph as purportedly not enabling one skilled in the art to make or use the invention. The Examiner asserts that Claim 23 is not enabled by the Specification because the Specification fails to identify a method of obtaining the microorganisms "Tr 115" and "Tr 116". Tr 115 and Tr 116 are commercially available microorganisms that one skilled in the art would be able to readily purchase. Examples of entities that sell these microorganisms are:

- The National Institute of Agrobiological Sciences, 2-1-2 Kannondai, Tsukuba, Ibaraki 3058602, Japan, Fax: 81-29-838-7054; Email: genebank@nias.affrc.go.jp;
- DSMZ Deutsche Sammlung von Mikroorganismen und Zellkulturen, D-38124 Braunschweig, Germany. Tel: +49-531-2616 220, Fax: +49-531-2616 418, Email: mail@dsmz.de;
- NCAIM National Collection of Agricultural & Industrial Microorganisms, Department of Microbiology and Biotechnology, University of Horticulture and Food Industry, Somloi ut 14-16, H-1118, Budapest, Hungary. Tel: +36-1-2671390, Fax: +36-1-2671304, Email: DBI0185/H8136tor@huella.bitnet;
- FCUG Fungal Cultures, Department of Systematic Botany, University of Goteborg, Carl Skottsbergs Gata 22, S-41319, Goteborg, Sweden, Phone: +46-18-182794, Fax: +46-18-508702, Email: nils.hallenberg@systbot.gu.se;
- MZKIBK Culture Collection of Fungi, National Institute of Chemistry, Hajdrihova 19, P.O. Box 30, SLO-61115, Ljubljana, Slovenia, Phone: +386-61-1232061, Fax: +386-61-1259244/ 1257069, Email: aleksa.cimerman@ki.si; or
- VKMF All Russian Collection of Microorganisms, Institute of Biochemistry and Physiology of Microorganisms, Russian Academy of Sciences, Moscow, Pushchino 142292, USSR. Tel: +7-095-9257448/+7-2316576 prive, Fax: +7-095-9233602, Email: vkm@stack.serpukhov.su.

Since these microorganisms are commercially available, they are known and readily available to the public. Accordingly, Applicants submit that one skilled in the art would be able to purchase the subject microorganisms. As such, the Specification enables one skilled in the art to obtain two or more *Trichoderma* species. Therefore, Applicants respectfully request that this rejection be withdrawn.

REJECTION UNDER 35 U.S.C. § 112, FIRST PARAGRAPH, WRITTEN DESCRIPTION

Claims 21-29 and 33-35 stand rejected under 35 U.S.C. § 112, first paragraph as purportedly failing to comply with the written description requirement. Particularly, the Examiner asserts that the Specification does not adequately describe all combinations of *Trichoderma* species which have bactericidal, bacteriostatic and fungicidal effects.

All combinations of *Trichoderma* are adequately described in the Specification. The Specification identifies a method of maintaining two or more live species of *Trichoderma* (§ 32). This is accomplished by providing a fast and effective method of overcoming the species violent antagonistic activity against competition (§ 7-8).

A patent specification must describe an invention in a manner that one reasonably skilled in the art could conclude that the inventor had possession of the claimed invention. MPEP § 2163, citing *Moba, B.V. v. Diamond Automation, Inc.*, 66 USPQ2d 1429, 1438 (Fed. Cir. 2003). In this case, the Examiner admits that this method is adequately described as to a subset of *Trichoderma*. However, the Examiner incorrectly limits the method to be conditioned upon particular combinations of *Trichoderma*.

The Inventors have developed a new method of culturing two or more species of *Trichoderma*. Each species of *Trichoderma* stimulates the other to excrete biocide without suffering any harm from the excrements. The result is superior lifecycle and increased biocide secretion. There is no cited reason that one skilled in the art would not be able to apply this method to any combination of *Trichoderma*. Without evidence to the contrary, the Examiner has not met her burden of showing that one skilled in the art would not recognize that the method described in the instant Application can be used with any combination of two or more species of

Trichoderma. For this reason, Applicants respectfully request reconsideration and withdrawal of this rejection.

REJECTION UNDER 35 U.S.C. § 112, SECOND PARAGRAPH, INDEFINITENESS

Claims 22, 23, 26, 29, 33 and 34 stand rejected under 35 U.S.C. § 112, second paragraph as purportedly being indefinite.

The Examiner asserts that claim 22 is unclear with regard to its recitation of “fractionated or in different proportions.” As defined in the Specification, fractionated refers to solid or liquid fractions and/or volatile secretions (§ 86), whereas “different proportions” refers to different portions of *Trichoderma* (§§ 77 and 103). As such, Applicants respectfully submit that the phrase “fractionated or in different proportions” as recited in claim 22 is clear and complies with Section 112. For this reason, Applicants respectfully request reconsideration and withdrawal of this rejection.

Applicants submit that the recitation of “variations” in claim 23 complies with Section 112. One skilled in the art would understand “variations” of species to mean different subspecies, subtypes or strains. Accordingly, claim 23 complies with Section 112 with respect to its use of the word “variations.” For this reason, Applicants respectfully request reconsideration and withdrawal of this rejection.

The recitation of “two or more *Trichoderma* species may be identified by strain names” is likewise definite. This phrase states that strains such as T 22, Tr 115, Tr 116, etc. may be used (§ 47). For this reason, Applicants respectfully request reconsideration and withdrawal of this rejection.

Claim 26 has been amended as the Examiner suggested to recite “respectively” after the listing of proportions. Accordingly, Applicants request that this rejection be withdrawn.

One skilled in the art would understand the phrase “cicatrizing paint” recited in claim 29 as paint capable of wound healing. Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

One skilled in the art would likewise under the phrase “volley technique” recited in claim 33 to mean a technique of applying a powder to plans, trees and/or fruits. Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

Claim 33 also stands rejected as indefinite for its recitation of “back machines.” One skilled in the art would understand “back machines” to mean a type of machine capable for applying a dose of a composition to an area (§ 62). Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

Finally, the Examiner asserts that claim 33 “is confusing since it is unclear how the composition is applied to seed impregnation if the composition is ‘incorporated to ferti-irrigation tanks.’” Applicants respectfully submit that claim 33 complies with Section 112 because the claim recites three different techniques: (1) a volley technique, (2) in seed impregnation by means of an aqueous solution directly on plants, or (3) incorporated to ferti-irrigation tanks by means of back machines, pulverizing machines and electrostatic machines. This rejection improperly combines technique #2 with technique #3. Therefore, claim 33 does not recite seed impregnation incorporated into ferti-irrigation tanks. Accordingly, Applicants respectfully request the withdrawal and reconsideration of this rejection.

REJECTIONS UNDER 35 U.S.C. § 102

Claims 21-24 and 35 stand rejected under 35 U.S.C. § 102. The Examiner relied upon several references or combination of references in asserting this rejection. The traversal of this rejection is presented by reviewing each cited reference or combination of references separately.

The Invention Is Not Anticipated by McCabe

Claims 21-23 and 35 stand rejected under 35 U.S.C. § 102 (b) as anticipated by McCabe et al. (U.S. Pat. No. 4,828,600). McCabe “is directed to corn seeds which can be coated with a coating including viable propagules of selected species of *Trichoderma* fungus ...” (column 2, lines 18-22). McCabe’s use of the terms “propagule” and “viable” does not indicate that the *Trichoderma* are alive and living in a manner that does not annihilate the other. It

merely means that they are capable of propagation or living, and upon propagation, are expected to annihilate each other. Nothing in McCabe suggests that once two or more species of *Trichoderma* propagate, that they will stimulate the other to excrete biocide without suffering any harm from the excrement and resulting in superior lifecycle and increased secretion. As such, McCabe fails to disclose combining two or more live *Trichoderma* capable of living without annihilating each other. Additionally, McCabe is not directed to a method of applying the composition recited in claim 35 to human beings and/or animals and/or foods. For these reasons, Applicants respectfully request that this rejection be reconsidered and withdrawn.

The Invention Is Not Anticipated by Paau in View of Hermosa and ATCC Catalog

Claims 21-23 and 35 stand rejected under 35 U.S.C. § 102(b) as anticipated by Paau et al. (U.S. Pat. No. 5,194,258) in light of Hermosa et al. (Applied Environmental Microbiology, 2000, 66(5): 1890-1898) and the ATCC catalog. According to MPEP § 2131, the Examiner has the burden in providing references that describe each and every element. In this case, the Examiner has improperly shifted that burden to the Applicants by stating that the Applicants have not provided evidence suggesting that Paau does not teach a combination of two or more fungi. This is improper according to the MPEP. Therefore, Applicants respectfully request that this rejection be withdrawn.

The Invention Is Not Anticipated by Richard

Claims 21-23 and 35 stand rejected under 35 U.S.C. § 102(b) as anticipated by Richard (U.S. Pat. No. 4,678,669). Richard is directed to immunizing commensals, which are microorganisms that exist in an internal environment instead of an external environment such as soil (column 1, lines 52-55). Immunizing commensals grow internally in a plant or other host being protect (column 1, lines 56-59). In contrast, claims 21-23 are directed to a composition having two or more live *Trichoderma* species, not a plant as described in Richard. Claim 35 is directed to a method of applying the composition to human beings and/or animals and/or foods, not inserting microorganisms into a plant as disclosed in Richard. As such, claims 21-23 and 35 are novel over Richard. As such, Applicants respectfully request reconsideration and withdrawal of this rejection.

The Invention Is Not Anticipated by Reinbergen

Claims 21-24 and 35 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Reinbergen (WO 97/31879). According to MPEP § 2131, the Examiner has the burden to provide references that describe each and every element of the claimed invention in as complete detail as claimed. However, Reinbergen does not adequately describe using two or more live *Trichoderma*, as recited in claims 21-24, to warrant a rejection under Section 102. Instead, Reinbergen discloses a solution containing microbial spores and/or colonies. The reference does not teach that the microbes will not compete or annihilate each other if propagated. Nothing in Reinbergen suggests that once two or more species of *Trichoderma* propagate, that they will stimulate the other to excrete biocide without suffering any harm from the excrement and resulting in superior lifecycle and increased secretion. As such, Reinbergen fails to disclose each and every element claimed in claims 21-24, particularly a composition with two or more live *Trichoderma* because it is anticipated that the microbes disclosed in Reinbergen would annihilate each other upon propagation. Claim 35 is directed to a method of applying the composition to human beings and/or animals and/or foods, not a solution containing microorganisms as disclosed by Reinbergen. As such, Applicants submit that the inventions recited in claims 21-24 and 35 are novel over Reinbergen. Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

REJECTIONS UNDER 35 U.S.C. § 103

Claims 21-29, 33-35, 39 and 40 stand rejected as being unpatentable under 35 U.S.C. § 103 in view of several combinations references. The traversal of this rejection is presented by reviewing each combination of the references separately.

The Invention Is Patentable over McCabe in View of Harman

Claims 21-23 and 35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over McCabe in view of Harman (Plant Disease, 2000, 84(4): 377-393). For the reasons discussed above, McCabe does not disclose each and every element recited in claimed

21-23 and 35. McCabe's shortcomings are not overcome by Harman's disclosure. Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

The Invention Is Patentable over Paau, Hermosa and ATCC Catalog in View of Harman

Claims 21-23 and 33-35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Paau, Hermosa and the ATCC catalog in view of Harman. For the reasons discussed above, Paau does not disclose each and every element recited in claimed 21-23 and 33-35. Paau's shortcomings are not overcome by Harman's disclosure. Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

The Invention Is Patentable over McCabe, Paau or Richard in View of Howell

Claims 21-23, 29 and 35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over McCabe or Paau or Richard in view of Howell et al. (Journal of Cotton Science, 1997, 1: 15-20). As discussed above, McCabe, Paau and Richard all fail to teach each and every element of the invention as recited in claims 21-23 and 35. These shortcomings are not overcome by Howell. Since claim 29 is a claim that includes the composition as recited in claim 21, McCabe, Paau and Richard also fail to teach each and every element in the invention as recited in claim 29, and these shortcomings are likewise not overcome by Howell. Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

The Invention Is Patentable over Reinbergen in View of Harman

Claims 21-24 and 33-35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Reinbergen in view of Harman. As discussed above, Reinbergen fails to disclose each and every element of the inventions as recited in claims 21-24 and 35. These discussed shortcomings are overcome by Harman. Additionally, since claims 33 and 34 ultimately depend on claim 21, and Reinbergen in view of Harman fails to teach each and every element of claim 21, claims 33 and 34 are likewise patentable over Reinbergen in view of Harman. For these reasons, Applications respectfully request that this rejection be reconsidered and withdrawn.

The Invention Is Patentable over Reinbergen in View of Gromovykh

Claims 21-26 and 35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Reinbergen in view of Gromovykh et al. (Proceedings of 1999 Annual International Research Conference on Methyl Bromide Alternatives and Emissions Reductions). As discussed above, Reinbergen fails to disclose each and every element of the invention as recited in claims 21-24 and 35. These discussed shortcomings are overcome by Gromovykh. Additionally, since claims 25 and 26 ultimately depend from claim 21, claims 25 and 26 are likewise patentable over Reinbergen in view of Gromovykh. For these reasons, Applicants respectfully request that this rejection be reconsidered and withdrawn.

The Invention Is Patentable over Reinbergen and Gromovukh in View of Panizzi

Claims 21-28 and 35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Reinbergen and Gromovykh in view of Panizzi (Journal of Ethnopharmacology, 79 (2002): 165-168). As discussed above, Reinbergen and Gromovykh fail to disclose each and every element of the invention as recited in claims 21-26 and 35. These discussed shortcomings are overcome by Panizzi. Since claims 27 and 28 ultimately depend from claim 21, claims 27 and 28 are likewise patentable over Reinbergen and Gromovykh in view of Panizzi.

Additionally, the record fails to cite any reason or motivation to combine Panizzi with Reinbergen and Gromovykh. A rejection under Section 103 can only be supported if the Examiner identifies a reason why a skilled artisan would combine the elements in the same manner as the applicant. *KSR Int'l v. Teleflex*, No. 04-1350 at 15. The reason or motivation cited cannot be based on hindsight. MPEP § 2145. In this case, the cited motivation to combine Panizzi with Reinbergen and Gromovykh is improperly based on hindsight. There is no motivation or reason cited in Panizzi, Reinbergen or Gromovykh to combine *Rubus ulmifolius* with *Trichoderma*.

For these reasons, Applicants respectfully request reconsideration and withdrawal of this rejection.

The Invention Is Patentable over Reinbergen in View of Howell

Claims 21-24, 29 and 35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Reinbergen in view of Howell. As discussed above, Reinbergen fails to disclose each and every element of the invention as recited in claims 21-24 and 35. These discussed shortcomings are overcome by Howell. Since claim 29 recites using a composition as claimed in 21, Reinbergen in view of Howell likewise do not disclose each and every element as recited in claim 29. For these reasons, claims 21-24, 29 and 35 are patentable over Reinbergen in view of Howell. Accordingly, Applicants respectfully request that this rejection be reconsidered and withdrawn.

The Invention Is Patentable over Reinbergen and Gromovykh in View of Toet and Yeoh

Claims 21-26, 35, 39 and 40 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Reinbergen and Gromovykh in view of Toet (U.S. Pat. No. 5,330,912) and Yeoh (World Journal of Microbiology & Biotechnology, 11 (1995): 678-680). As discussed above, Reinbergen and Gromovykh fail to disclose each and every element of the invention as recited in claims 21-26 and 35. These discussed shortcomings are overcome by Toet or Yeoh. Since claims 39 and 40 ultimately depend from claim 21, claims 39 and 40 are likewise patentable over Reinbergen and Gromovykh in view of Toet or Yeoh.

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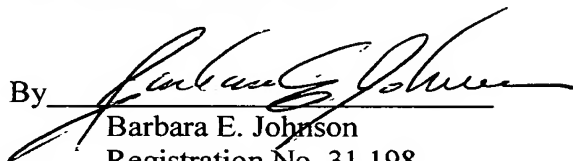
CONCLUSION

In view of the foregoing amendments and remarks, Applicants respectfully submit that all pending claims in the instant application are novel over the prior art and are in condition for allowance. Accordingly, reconsideration and withdrawal of the rejections and the issuance of a Notice of Allowance are respectfully requested. Should the Examiner have any questions or concerns, the Examiner is invited to contact Applicants undersigned attorney by telephone at 412-471-8815.

Respectfully submitted,

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